

1	atgatctttg	gtgtgaacac	aaggcagaac	ttagaccatg	ttaaagaatc	aaaaacaggt
61	tcttcaggca	ttatagtaag	gttaagcact	aaccatttcc	ggctgacatc	ccgtccccag
121	tgggccttat	atcagtatca	cattgactat	aaccactga	tggaagccag	aagactccgt
181	tcagctcttc	tttttcaaca	cgaagatcta	attggaaagt	gtcatgcttt	tgatggaacg
241	atattatttt	tacctaaaag	actacagcaa	aagggtactg	aagtttttag	taagaccggy
301	aatggagagg	atgtgaggat	aacgatcact	ttaacaaatg	aacttccacc	tacatcacca
361	acttgtttgc	agttctataa	tattattttc	aggaggcttt	tgaaaatcat	gaatttgcaa
421	caaattggac	gaaattatta	taacccaaat	gacccaattg	atattccaag	tcacaggttg
481	gtgatttggc	ctggcttcac	tacttccatc	cttcagtatg	aaaacagcat	catgctctgc
541	actgacgtta	gccataaagt	ccttcgaagt	gagactgttt	tggatttcat	gttcaacttt
601	tatcatcaga	cagaagaaca	taaatttcaa	gaacaagt	ccaaagaact	aatagggtta
661	gttgttctta	ccaagtataa	caataagaca	tacagagtgg	atgatattga	ctgggaccag
721	aatcccaaga	gcacctttaa	gaaagccgac	ggctctgaag	tcagcttctt	agaatactac
781	aggaagcaat	acaaccaaga	gatcaccgac	ttgaagcagc	ctgtcttggg	cagccagccc
841	aagagaaggc	ggggccctgg	ggggacactg	ccagggcctg	ccatgctcat	tcctgagctc
901	tgctatctta	caggtctaac	tgataaaaatg	cgtaatgatt	ttaacgtgat	gaaagactta
961	gccgttcata	caagactaac	tccagagcaa	aggcagcgtg	aagtgggacg	actcattgat
1021	tacattcata	aaaacgataa	tgttcaaagg	gagcttcgag	actgggggtt	gagctttgat
1081	tccaacttac	tgtccttctc	aggaagaatt	ttgcaaacag	aaaagattca	ccaagggtga
1141	aaaacatttg	attacaatcc	acaatttgca	gattggtcca	aagaaacaag	aggtgcacca
1201	ttaattagtg	ttaagccact	agataactgg	ctggtgatct	atacgcgaag	aaattatgaa
1261	gcagccaatt	cattgatata	aatctat	aaagttacac	cagccatggg	catgcaaatg
1321	agaaaagcaa	taatgattga	agtggatgac	agaactgaag	cctacttaag	agtcttacag
1381	caaaagggtca	cagcagacac	ccagatagtt	gtctgtctgt	tgtcaagtaa	tcggaaggac
1441	aaatacagtg	ctattaaaaa	atacctgtgt	acagattgcc	ctaccccaag	tcagtgtgtg
1501	gtggcccga	ccttaggcaa	acagcaaact	gtcatggcca	ttgctacaaa	gattgcccta
1561	cagatgaact	gcaagatggg	aggagagctc	tggaggggtg	acatccccct	gaagctcgtg
1621	atgatcgttg	gcatcgattg	ttaccatgac	atgacagctg	ggcggagggtc	aatcgcagga
1681	tttgttgcca	gcatcaatga	agggatgacc	cgctggttct	cacgctgcat	atttcaggat
1741	agaggacagg	agctggtaga	tgggctcaaa	gtctgcctgc	aagcggctct	gagggcttgg
1801	aatagctgca	atgagtacat	gccagccgg	atcatcgtgt	accgcgatgg	cgtaggagac
1861	ggccagctga	aaacactggg	gaactacgaa	gtgccacagt	ttttggattg	tctaaaatcc
1921	attggtagag	gttacaaccc	tagactaacg	gtaattgtgg	tgaagaaaag	agtgaacacc
1981	agattttttg	ctcagtctgg	aggaagactt	cagaatccac	ttcctggaac	agttattgat
2041	gtagagggtta	ccagaccaga	atggtatgac	ttttttatcg	tgagccaggc	tgtgagaagt
2101	ggtagtggtt	ctccacacaca	ttacaatgtc	atctatgaca	acagcggcct	gaagccagac
2161	cacatacagc	gcttgaccta	caagctgtgc	cacatctatt	acaactggcc	aggtgtcatt
2221	cgtgttcctg	ctccttgcca	gtacgcccac	aagctggctt	ttcttggttg	ccagagtatt
2281	cacagagagc	caaactctgtc	actgtcaaac	cgcctttact	acctctaa	

Figure 1

Met Ile Phe Gly Val Asn Thr Arg Gln Asn Leu Asp His Val Lys Glu Ser Lys Thr Gly Ser Ser Gly Ile Ile Val Arg Leu Ser Thr	30
Asn His Phe Arg Leu Thr Ser Arg Pro Gln Trp Ala Leu Tyr Gln Tyr His Ile Asp Tyr Asn Pro Leu Met Glu Ala Arg Arg Leu Arg	60
Ser Ala Leu Leu Phe Gln His Glu Asp Leu Ile Gly Lys Cys His Ala Phe Asp Gly Thr Ile Leu Phe Leu Pro Lys Arg Leu Gln Gln	90
Lys Val Thr Glu Val Phe Ser Lys Thr Arg Asn Gly Glu Asp Val Arg Ile Thr Ile Thr Leu Thr Asn Glu Leu Pro Thr Ser Pro	120
Thr Cys Leu Gln Phe Tyr Asn Ile Ile Phe Arg Arg Leu Leu Lys Ile Met Asn Leu Gln Gln Ile Gly Arg Asn Tyr Tyr Asn Pro Asn	150
Asp Pro Ile Asp Ile Pro Ser His Arg Leu Val Ile Trp Pro Gly Phe Thr Thr Ser Ile Leu Gln Tyr Glu Asn Ser Ile Met Leu Cys	180
Thr Asp Val Ser His Lys Val Leu Arg Ser Glu Thr Val Leu Asp Phe Met Phe Asn Phe Tyr His Gln Thr Glu His Lys Phe Gln	210
Glu Gln Val Ser Lys Glu Leu Ile Gly Leu Val Val Leu Thr Lys Tyr Asn Asn Lys Thr Tyr Arg Val Asp Asp Ile Asp Trp Asp Gln	240
Asn Pro Lys Ser Thr Phe Lys Lys Ala Asp Gly Ser Glu Val Ser Phe Leu Glu Tyr Tyr Arg Lys Gln Tyr Asn Gln Glu Ile Thr Asp	270
Leu Lys Gln Pro Val Leu Val Ser Gln Pro Lys Arg Arg Gly Pro Gly Gly Thr Leu Pro Gly Pro Ala Met Leu Ile Pro Glu Leu	300
Cys Tyr Leu Thr Gly Leu Thr Asp Lys Met Arg Asn Asp Phe Asn Val Met Lys Asp Leu Ala Val His Thr Arg Leu Thr Pro Glu Gln	330
Arg Gln Arg Glu Val Gly Arg Leu Ile Asp Tyr Ile His Lys Asn Asp Asn Val Gln Arg Glu Leu Arg Asp Trp Gly Leu Ser Phe Asp	360
Ser Asn Leu Leu Ser Phe Ser Gly Arg Ile Leu Gln Thr Glu Lys Ile His Gln Gly Gly Lys Thr Phe Asp Tyr Asn Pro Gln Phe Ala	390
Asp Trp Ser Lys Glu Thr Arg Gly Ala Pro Leu Ile Ser Val Lys Pro Leu Asp Asn Trp Leu Leu Ile Tyr Thr Arg Arg Asn Tyr Glu	420
Ala Ala Asn Ser Leu Ile Gln Asn Leu Phe Lys Val Thr Pro Ala Met Gly Met Gln Met Arg Lys Ala Ile Met Ile Glu Val Asp Asp	450
Arg Thr Glu Ala Tyr Leu Arg Val Leu Gln Gln Lys Val Thr Ala Asp Thr Gln Ile Val Val Cys Leu Ser Ser Asn Arg Lys Asp	480
Lys Tyr Asp Ala Ile Lys Lys Tyr Leu Cys Thr Asp Cys Pro Thr Pro Ser Gln Cys Val Val Ala Arg Thr Leu Gly Lys Gln Gln Thr	510

Figure 1
Continued

Val Met Ala Ile Ala Thr Lys Ile Ala Leu Gln Met Asn Cys Lys Met Gly Gly Glu Leu Trp Arg Val Asp Ile Pro Leu Lys Leu Val 540

Met Ile Val Gly Ile Asp Cys Tyr His Asp Met Thr Ala Gly Arg Ser Ile Ala Gly Phe Val Ala Ser Ile Asn Glu Gly Met Thr 570

Arg Trp Phe Ser Arg Cys Ile Phe Gln Asp Arg Gly Gln Glu Leu Val Asp Gly Leu Lys Val Cys Leu Gln Ala Ala Leu Arg Ala Trp 600

Asn Ser Cys Asn Glu Tyr Met Pro Ser Arg Ile Ile Val Tyr Arg Asp Gly Val Gly Asp Gly Gln Leu Lys Thr Leu Val Asn Tyr Glu 630

Val Pro Gln Phe Leu Asp Cys Leu Lys Ser Ile Gly Arg Gly Tyr Asn Pro Arg Leu Thr Val Ile Val Val Lys Lys Arg Val Asn Thr 660

Arg Phe Phe Ala Gln Ser Gly Gly Arg Leu Gln Asn Pro Leu Pro Gly Thr Val Ile Asp Val Glu Val Thr Arg Pro Glu Trp Tyr Asp 690

Phe Phe Ile Val Ser Gln Ala Val Arg Ser Gly Ser Val Ser Pro Thr His Tyr Asn Val Ile Tyr Asp Asn Ser Gly Leu Lys Pro Asp 720

His Ile Gln Arg Leu Thr Tyr Lys Leu Cys His Ile Tyr Tyr Asn Trp Pro Gly Val Ile Arg Val Pro Ala Pro Cys Gln Tyr Ala His 750

Lys Leu Ala Phe Leu Val Gly Gln Ser Ile His Arg Glu Pro Asn Leu Ser Asn Arg Leu Tyr Tyr Leu 775

Figure 1
Continued

PIWI MADDQGRGRRRPLNEDDSSTSRGSGDGPVKVFRGSSSGDPRADPRIEASRERRALEEAPR
 M F G R L 61
 HIWI M-----IF-----G-----VNTRQNLHDV--

 PIWI REGGPPERKPWGDQYDYLNTFPVELVSKKGTGVPVMLQTNFFRLKTKPEWRIVHYHVEFE
 K E SK G+ G+ V L TN FRL ++P+W + YH+++ 122
 HIWI -----K-----E--SKTGSSGIIVRLSTNHFRLTSRPQWALYQYHIDYN

 PIWI PSIENPRVRMGVLSNHANLLGSGYLFDFGLQFTTRKFEQETVLSGKSKLDIEYKISIKFV
 P +E R+R +L H +L+G + FDG LF ++ +Q++T + K++ + +I+I 183
 HIWI PLMEARRLSALLFQHEDLIGKCHAFDGTILFLPKRLQQKVTEVFSKTRNGEDVRITITLT

 PIWI GFISCAEPFLQVLNLILRRSMKGLNLELVGRNLFDPRAKIEIREFKMELWPGYETSIRQH
 + P LQ N+I RR +K +NL+ +GRN ++P I+I ++ +WPG+ TSI Q+ 244
 HIWI NELPPTSPTCLQFYNIIFRRLKIMNLQQIGRNYNPNNDPIDIPSHRLVIWPGFTTSLQY

 PIWI EKDILLGTEITHKVMRTETIYDIMRRCSHNPARRH--QDEVVRNVLDLIVLTDYNNRTYRIN
 E I+L T+++HKV+R+ET+ D M H H Q++V ++ L+VLT YNN+TYR++ 305
 HIWI ENSIMLCTDVSHKVLRSFVLDLDFMNFYHQTEEHKFQEQVSKELIGLVLT KYNNKTYRVD /

 PIWI DVDFGQTPKSTF-SCKGRDISFVEYYLT KYNIRIRDHNQPLLISK-NRDKALKTNASELVV
 D+D+ Q PKSTF G ++SF+EYY +YN I D QP+L+S+ R + + 366
 HIWI DIDWDQNPSTFKKADGSEVSFLEYRQYNOEITDLKQPVLSQPKRRRGPGGTLPGPAM

 PIWI LIPELCRVTLGNAEMRSNFQLMRAMSSYTRMNPQR---TDLRAFNHRLQNTPESVKVLRL
 LIPELC +TGL +MR++F +M+ ++ +TR+ P+QR RL + H+ N LR 427
 HIWI LIPELCYLTGLTDKMRNDFNVMKDLAVHTRLTPEQRQREVGRLLIDYIHKNDNVQ---RELRL

 PIWI DWNMELDKNVTEVQGRIGQONIVFHNGKVPAGEN---ADWQRHFRDQRMLTTPSDGLDRW
 DW + D N+ GRI+ + I H G N ADW + R +++ LD W 488
 HIWI DWGLSFDNLLSFSGRILQTEKI--HQGGKTFDYNPQFADWSKETRGAPLISVKP--LDNW

 PIWI AVIAPQRNSHELRTLLDSLYRAASGMGLRIRSPQEFIIYDDRTGTYVRAMDDCVRSDPKLI
 +I +RN +L+ +L++ MG+++R I DDRT Y+R + V +D++++ 549
 HIWI LLIYTRRNYEAANSLIQNLFKVTPAMGMQMRK-AIMIEVDDRTEAYLRVLQKVTADTQIV

 PIWI LCLVPNDNAERYSSIKKRGYVDRAVPTQVVTLKTTKPKPYLSMSIATKIAIQLNCKLGYTPW
 CL+ ++ ++Y +IKK D P+Q V +T K ++M+IATKIA+Q+NCK+G W 610
 HIWI VCLLSSNRKDKYDAIKKYLCTDCPTPSQCVVARTLGKQQTVMATKIALQMNCKMGGELW

 PIWI MIELPLSGLMTIGFDIAKSTRDRKRAYGALIASMDLQQNSTYFSTVTECSAFDVLANTLWP
 +++PL +M +G D +R+ +AS++ + + +FS L+ L 671
 HIWI RVDIPLKLVMIVGIDCYHDMTAGRRSIAGFVASIN-EGMTRWFSRCIFQDRGQELVDGLKV

 PIWI MIAKALRQYQHEHRKLPSRIVFYRDGVSSGSLKQLFEFEVKDIIIEKLKTEYARVQLSPPQL
 + ALR + + +PSRI+ YRDGV G LK L +EV ++ LK+ P+L 732
 HIWI CLQAALRAWNSCNEYMPRIIVYRDGVGDGQLKTLVNYEVPQFLDCLKSIGRGYN---PRL

 PIWI AYIVVTRSMNTRFFLNG----QNPPPGTIVDDVITLPERYDFYLSQQVRQGTVSPTSYNV
 IVV + +NTRFF QNP PGT++D +T PE YDF++VSQ VR G+VSPT YNV 793
 HIWI TVIVVKRVNTRFFAQSGGRLQNLPGTVIDVEVTRPEWYDFFIVSQAVRSGSVSPTHYNV

 PIWI LYSSMGLSPEKMQLTYKMCHLYYNWSGTTTRVPAVCQYAKKLATLVGTNLHSIPQNALEK
 +Y + GL P+ +Q+LTYK+CH+YYNW G RVPA CQYA KLA LVG ++H P +L 854
 HIWI IYDNSGLKPDHIQRLTYKLCHIIYNWPGVIRVPAPCQYAHKLAFLVGQSIHREPNSLSN

 PIWI KFYLL
 + YLL 859
 HIWI RLYLL

Figure 1
Continued

2003-10-14 22:40:07

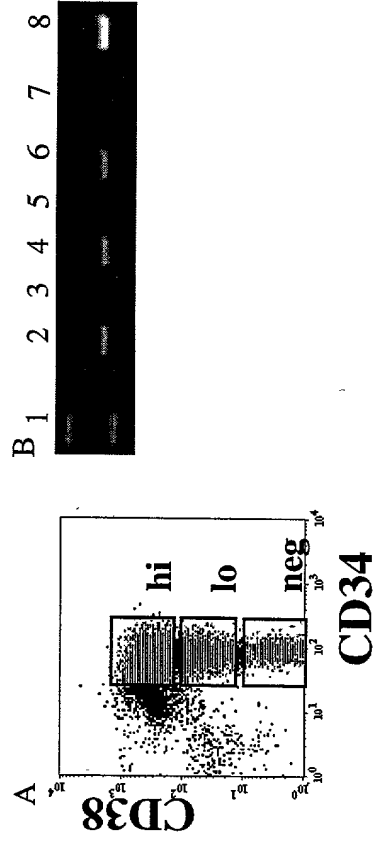


Figure 2

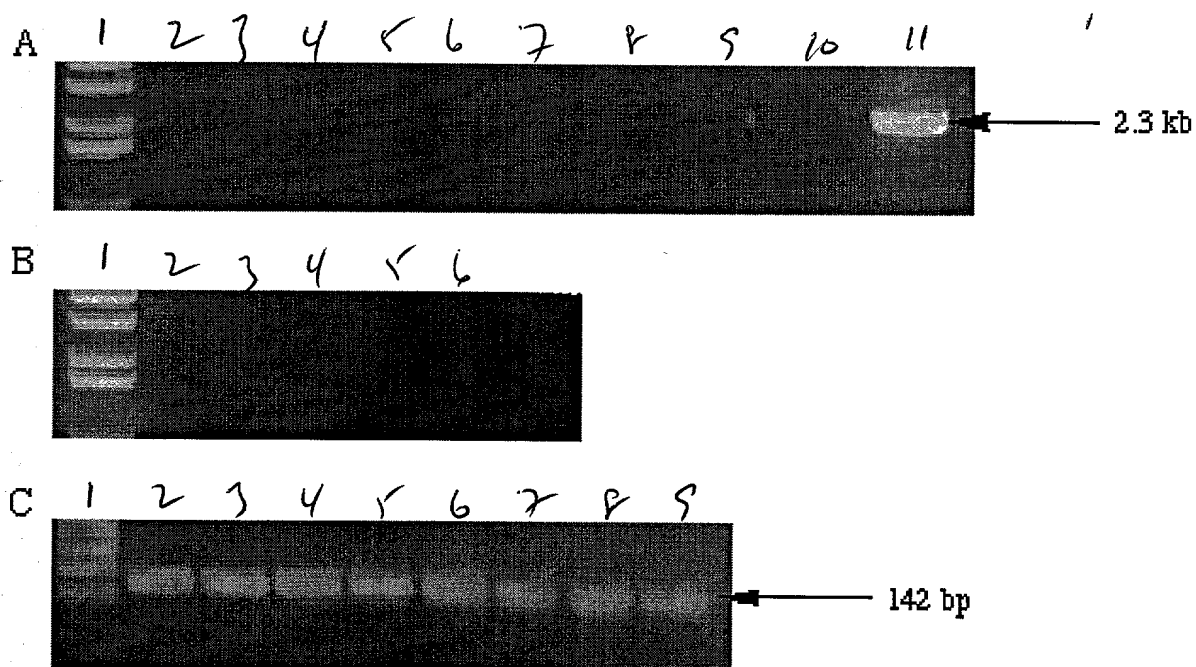


Figure 3

2007-04-26 10:01:00

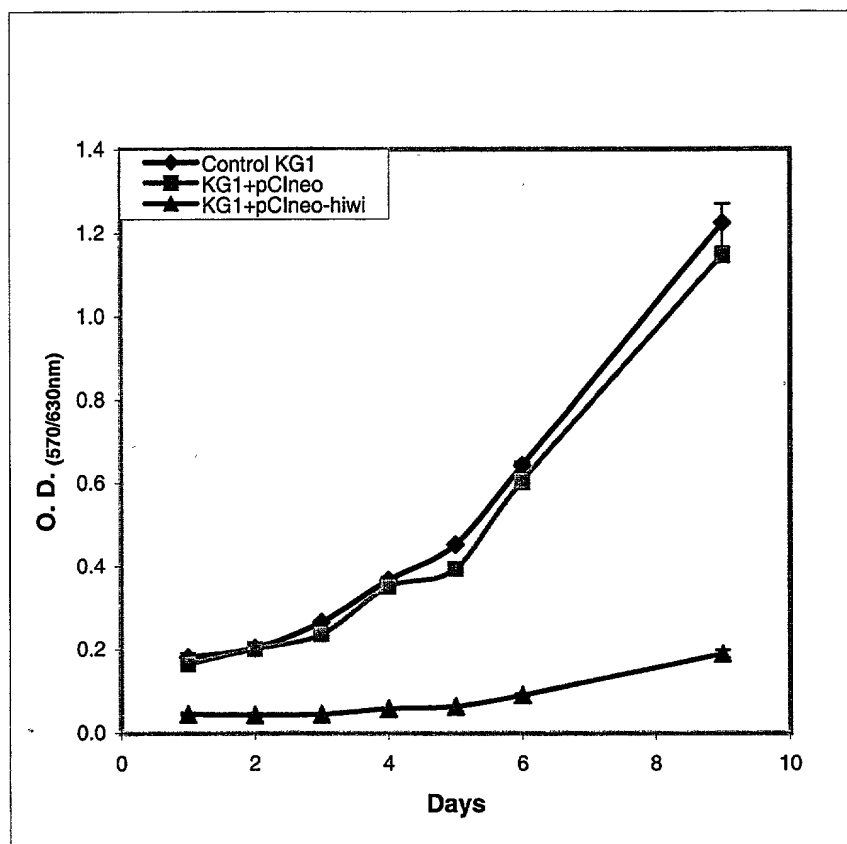


Figure 4

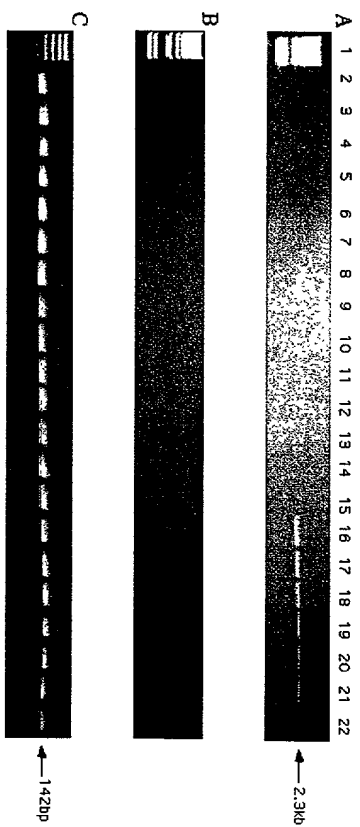
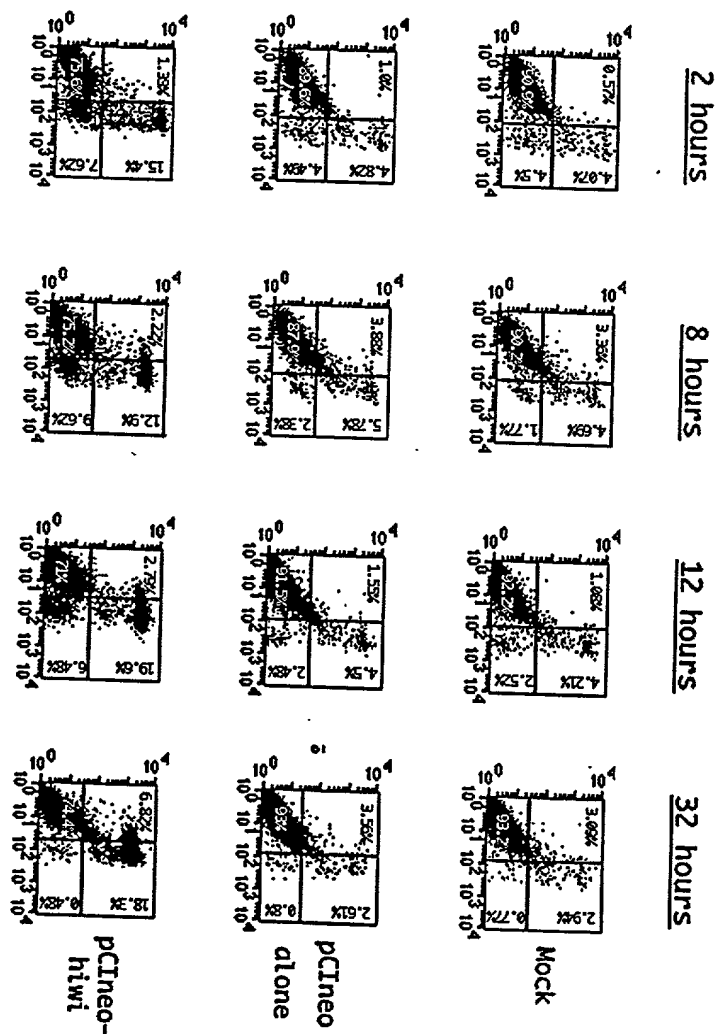


Figure 5

10043774.01.1002

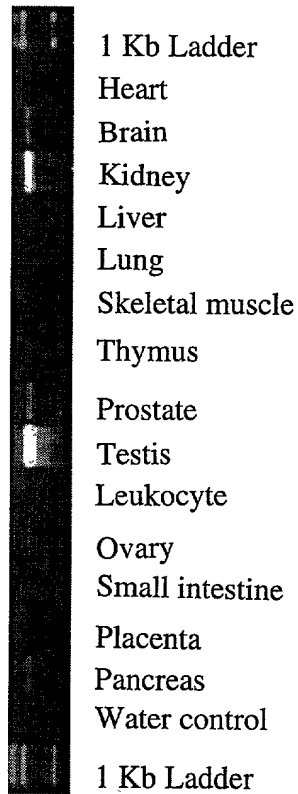
Propidium Iodide



Annexin V

Figure 6

B



A

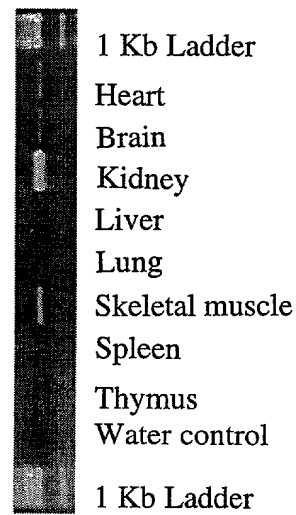


Figure 7

1004374.01.1002

2007042400

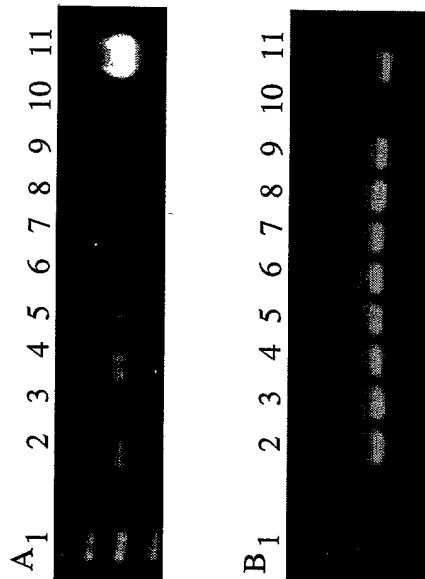


Figure 8

1004374-011000

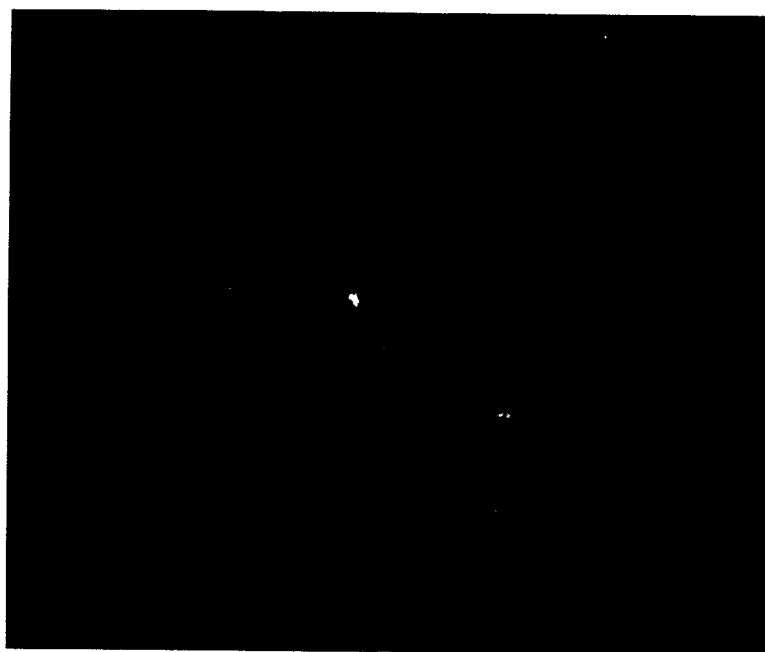
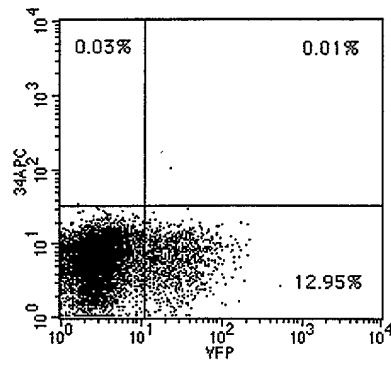
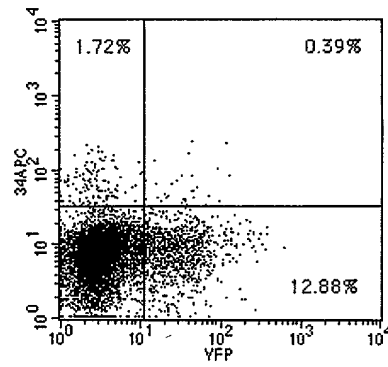


Figure 9

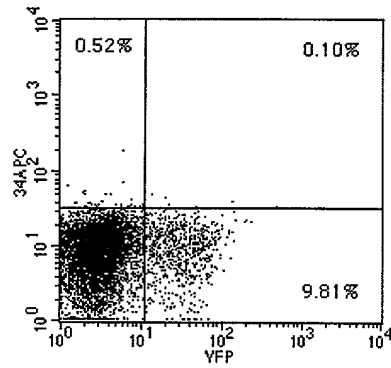
Hiwi Isotype Control



Hiwi CD34/YFP



Empty Vector Isotype Control



Empty Vector CD34/YFP

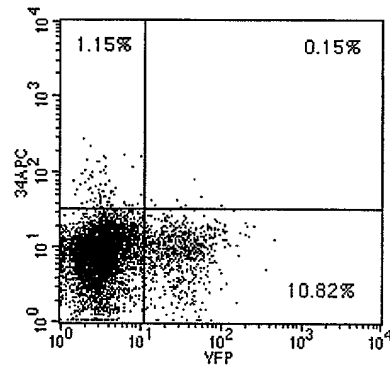


Figure 10